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PHOTOGRAPHIC INTERPRETATION REPORT



**LVOV
HF COMMUNICATIONS
FACILITIES
USSR**

Declass Review by NIMA
/ DoD

TCS-81090/66

DECEMBER 1966

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LVOV HF COMMUNICATIONS FACILITIES USSR

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NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

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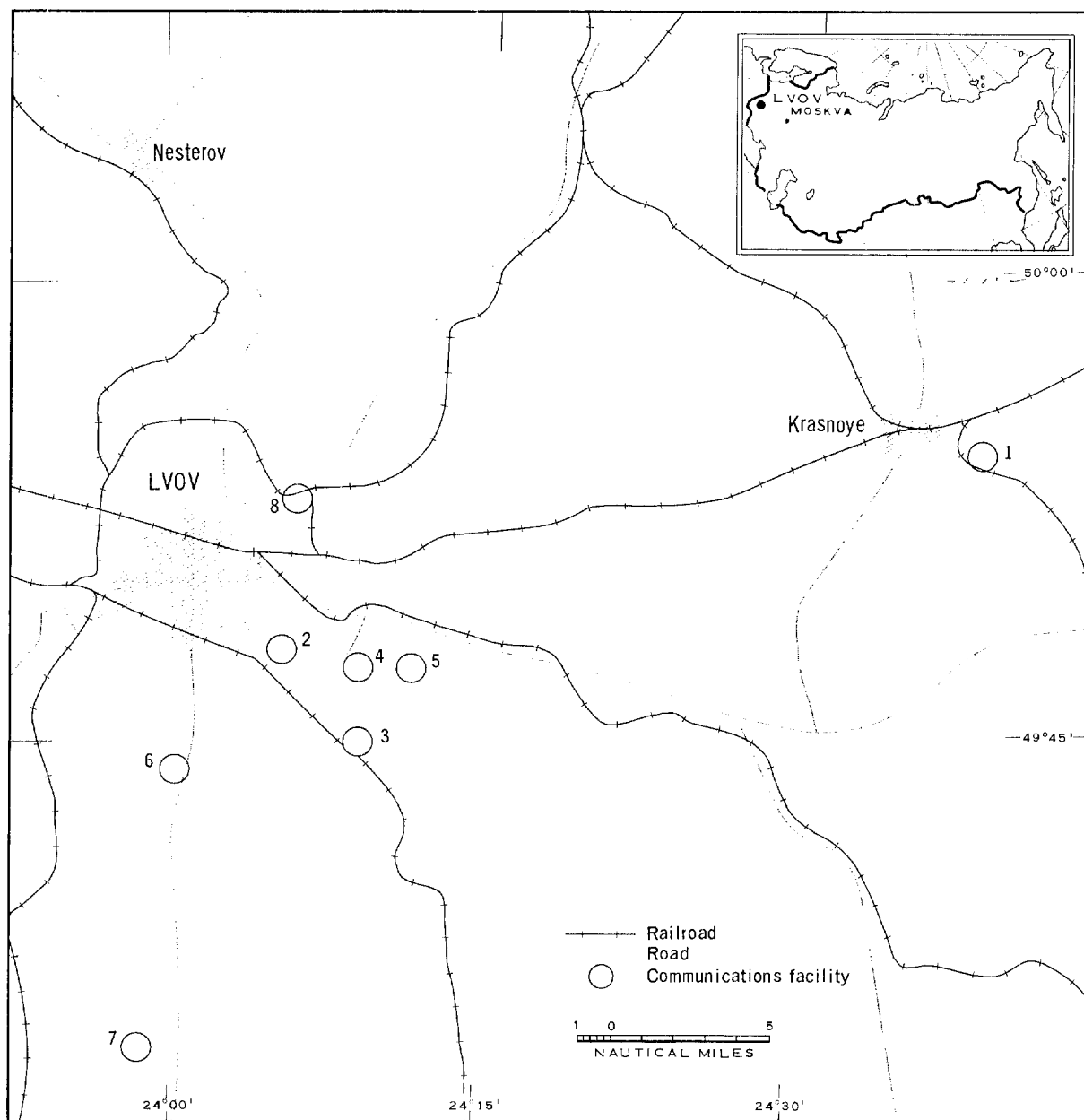


FIGURE 1. LOCATION OF THE HF COMMUNICATIONS FACILITIES IN THE AREA OF LVOV, USSR.

NPIC L-6164 (12/66)

LVOV HF COMMUNICATIONS FACILITIES, USSR

INTRODUCTION

25X1D [REDACTED] requirements a search of the available photography of an area with a 35 nautical mile (nm) radius of Lvov, USSR, was performed to identify high frequency (HF) communications facilities associated with any Soviet military ground force installation. Eight HF communications facilities have been identified (Figure 1) and are reported herein. A Thick Eight HF/Direction Finder (DF) facility at 49-56N 024-04E and a television tower within the central portion of Lvov urban complex were identified in the search area, but are not included in this report.

As specified in the requirements, a determination was made of any association of these HF communications facilities with military ground forces barracks areas. None of the above facilities appear to be physically associated with any known military barracks area. None of the facilities can be negated on available KEYHOLE photography.

To simplify the descriptions of the 8 HF communications facilities and the location of each as shown on Figure 1, a numerical designator has been assigned to each facility described in the report.

KRASNOYE RADIO STATION

A high frequency (HF) radio station, designated communications facility 1 on Figure 1, is 27 nm east-northeast of Lvov and 2.2 nm southwest of Krasnoye at 49-54N 024-40E. The facility (Figures 2 and 3) is divided in 2 portions. The western portion consists of 5 tower supported curtain arrays and 18 self-supporting lattice towers. A large control building, 2 small switching buildings, and 2 cooling ponds are in

the central portion of the curtain array antenna field. Small scale photography precludes a determination of the operating frequency of this system. However, this type of array is designed for long distance communications in the 2 to 6 megacycle frequency spectrum. Due to the distances involved in this system, no attempt has been made to determine correspondents. It can be noted that the arrays are oriented in such a way as to radiate in a generally westerly direction.

A support area of at least 27 buildings of various sizes and function is adjacent to the northern edge of the facility.

The southeastern portion of the facility consists of an HF end-fed linear array which is under construction. However, recent ground photography reveals the antenna array is apparently complete. The linear array is endfed and consists of 17 self-supporting lattice towers, each approximately 135 feet high and spaced approximately 245 feet apart. The array has a total length of approximately 3,700 feet. The array appears to be radiating on an azimuth of [REDACTED]

In all probability, this array operates in the lower portion of the HF spectrum.

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LVOV HF COMMUNICATIONS FACILITY

A probably secured HF communications facility, designated communications facility 2 on Figure 1, is 3.8 nm southeast of the center of Lvov at 49-48N 024-05E. The facility (Figures 4 and 5) consists of an earth-mounded control building surrounded by 2 horizontal dipole antennas and 5 probable horizontal dipole antennas, and 1 probable fishbone antenna. Numerous antenna feeder traces and clearings for an undetermined number of antennas can be observed in the wooded area of the facility.

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Photographic interpretability is limited. Antenna dimensions and azimuths can not be obtained from available photography with any reasonable degree of accuracy. A small support area contains at least 8 buildings.

It would appear that the function of this facility is principally receiving. This facility may be associated with the HF communications facility, designated communications facility 4, 7.7 nm southeast of Lvov at 40-45N 024-09E and which appears to be a transmitting facility. The similarities observed between these 2 facilities follow:

1. same physical size
2. approximately the same number of antennas which are positioned in generally the same antenna azimuth of coverage
3. support areas, at both facilities, apparently have approximately the same number and types of buildings
4. both facilities contain a low profile earth-mounded control building.

LVOV HF COMMUNICATIONS FACILITY

An HF communications facility, designated communications facility 3 on Figure 1, is 7.7 nm southeast of Lvov at 49-45N 024-09E. The facility (Figures 6 and 7) is secured and consists of an earth-mounded control building which is surrounded by 7 horizontal dipole antennas, 3 day/night vee antennas, and 1 single rhombic antenna. A small support area contains 5 buildings of various sizes and functions.

The function of the installation appears to be transmitting, and as stated above, it may be associated with Lvov HF communications facility, designated communications facility 2, which is 3.8 nm southeast of Lvov.

LVOV HF COMMUNICATIONS FACILITY

An HF communications facility, designated communications facility 4 on Figure 1, is 6.5 nm

east of Lvov at 49-49N 024-10E. The facility (Figures 8 and 9) is secured and consists of a central control building and 3 support buildings. Two single rhombic antennas and 5 masts, probably supporting horizontal dipole antennas, are within the facility.

This facility is similar in antenna number and orientation to the HF communications facility approximately 2.1 nm east of Lvov and designated communications facility 5 on Figure 1. From this similarity, it may be assumed that these are associated facilities. It can not be determined from available photography which of these facilities is transmitting and which is receiving in function.

LVOV HF COMMUNICATIONS FACILITY

An HF communications facility, designated communications facility 5 on Figure 1, is 8.5 nm east of Lvov at 49-49N 024-10E. The facility (Figures 10 and 11) is secured and consists of a central control building, 2 single rhombic antennas and 6 mast antennas which are probably supporting horizontal dipole antennas.

LVOV HF COMMUNICATIONS FACILITY

An HF communications facility, designated communications facility 6 on Figure 1, is 6 nm south of Lvov at 49-44N 024-00E. The facility (Figures 12 and 13) consists of a low profile earth-mounded control building which is surrounded by 12 possible horizontal dipole antennas. Antenna configuration is not clearly discernible on available photography. Therefore, antenna azimuths and dimensions cannot be obtained. A support area contains 27 buildings of various sizes and functions, an athletic field, and a water tower. A probable substation is adjacent to the southern edge of the antenna field. An area of unidentified construction activity is south of the support area and contains several single-story buildings and numerous

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ground areas which may be foundation footings for additional buildings.

Comparison of all available photography of this facility showed it has undergone a significant period of construction activity during which several of the multistory barracks buildings were completed.

This facility is somewhat similar in appearance to the HF communications facilities designated 2 and 3 and discussed above. The major difference is the size of the support area in facility 6 which is about 3 times larger than the other 2 support areas. The primary use of the antennas associated with this facility 6 is transmitting, but it must be kept in mind that these horizontal dipole antennas are also adequate for short range receiving. The conclusion is that the function of this facility is probably transmitting. The barracks and the small operations building are similar to those found at several deployed Soviet missile communication facilities. However, the remainder of the facility does not conform to any known Soviet missile associated communications facility.

NIKOLAYEV HF COMMUNICATIONS FACILITY

An HF communications facility, designated communications facility 7 on Figure 1, is at 49-35N 023-58E, 15 nm south of Lvov and 3.5 nm north of Nikolayev. The facility (Figure 14) consists of a probably secured HF communications antenna field and a support area. A large central control/studio building is situated within the antenna field and a support area of at least 40 buildings of various sizes and functions is adjacent to the HF antenna field.

Antenna configurations can not be determined from available aerial photography; however, ground photography indicates that this facility contains a large number of HF antennas.

LVOV RADIO BROADCAST STATION

A radio broadcast station, designated communications facility 8 on Figure 1, is 4.8 nm northeast of Lvov at 49-53N 024-06E. The station (Figure 15) consists of one T-shaped control building, 1 cooling pond, a single vertical radiator, and 5 support buildings.

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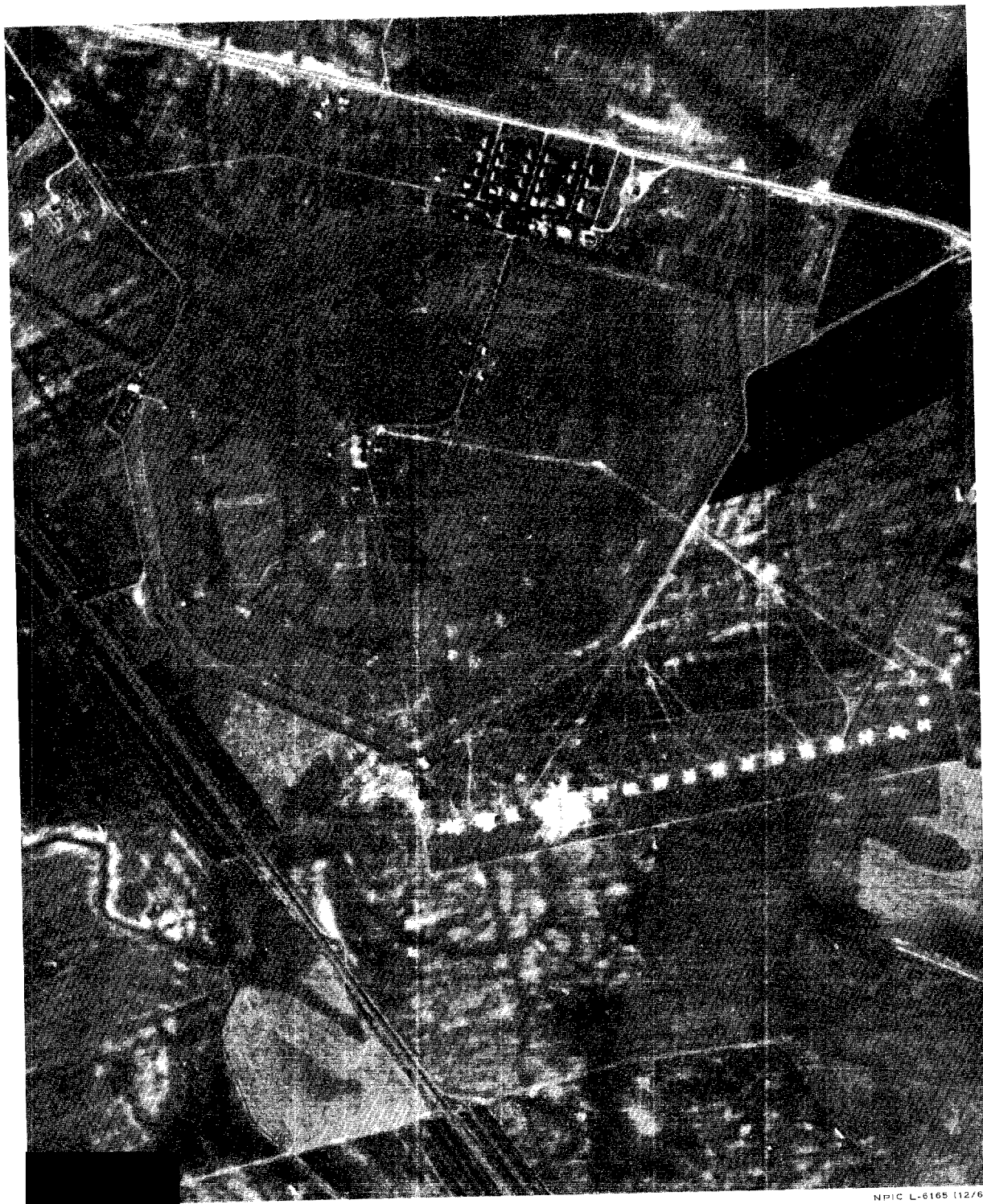


FIGURE 2. KRASNOYE RADIO STATION, DESIGNATED COMMUNICATIONS FACILITY 1.

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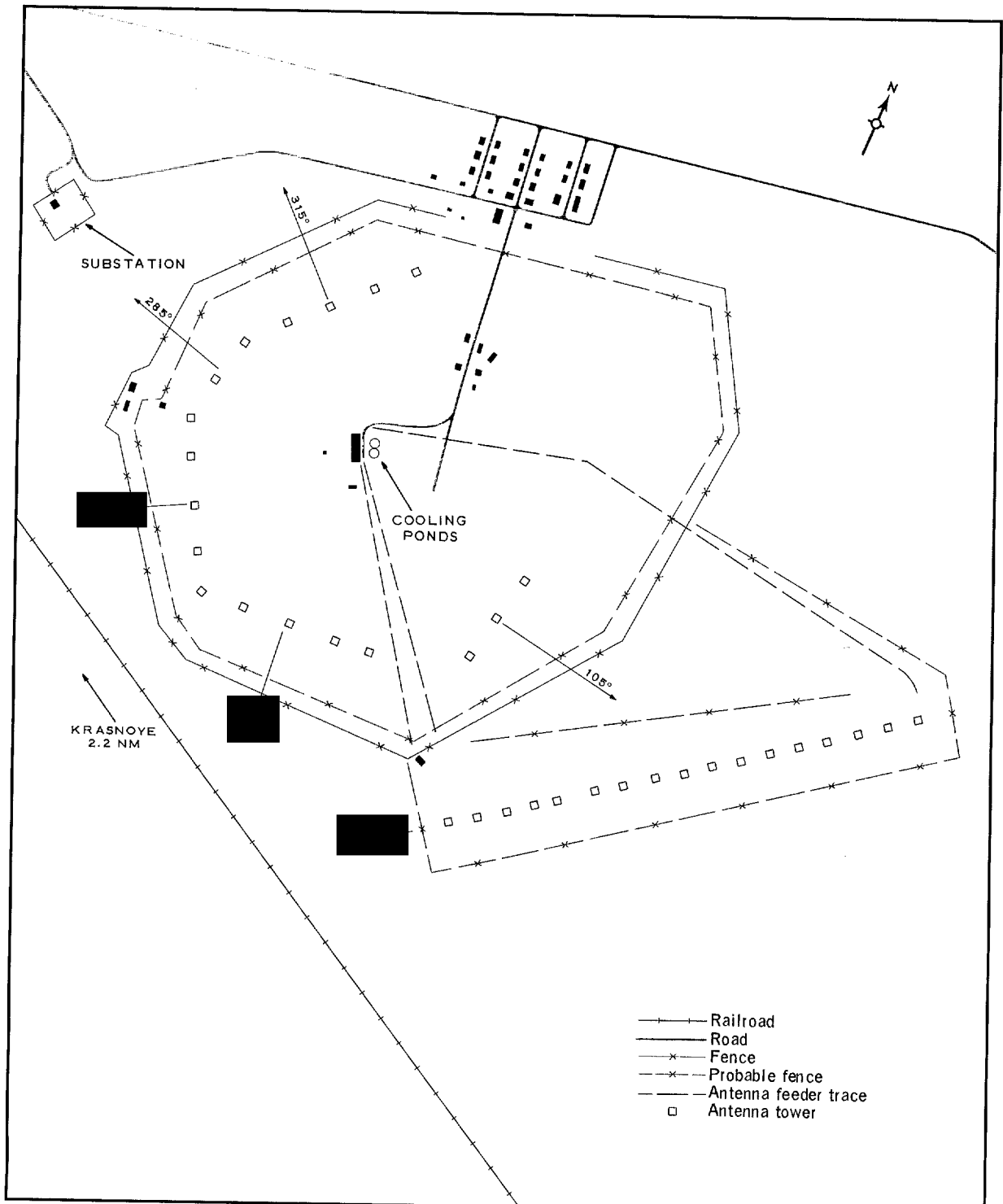


FIGURE 3. LAYOUT OF THE KRASNOYE RADIO STATION, DESIGNATED COMMUNICATIONS FACILITY 1.

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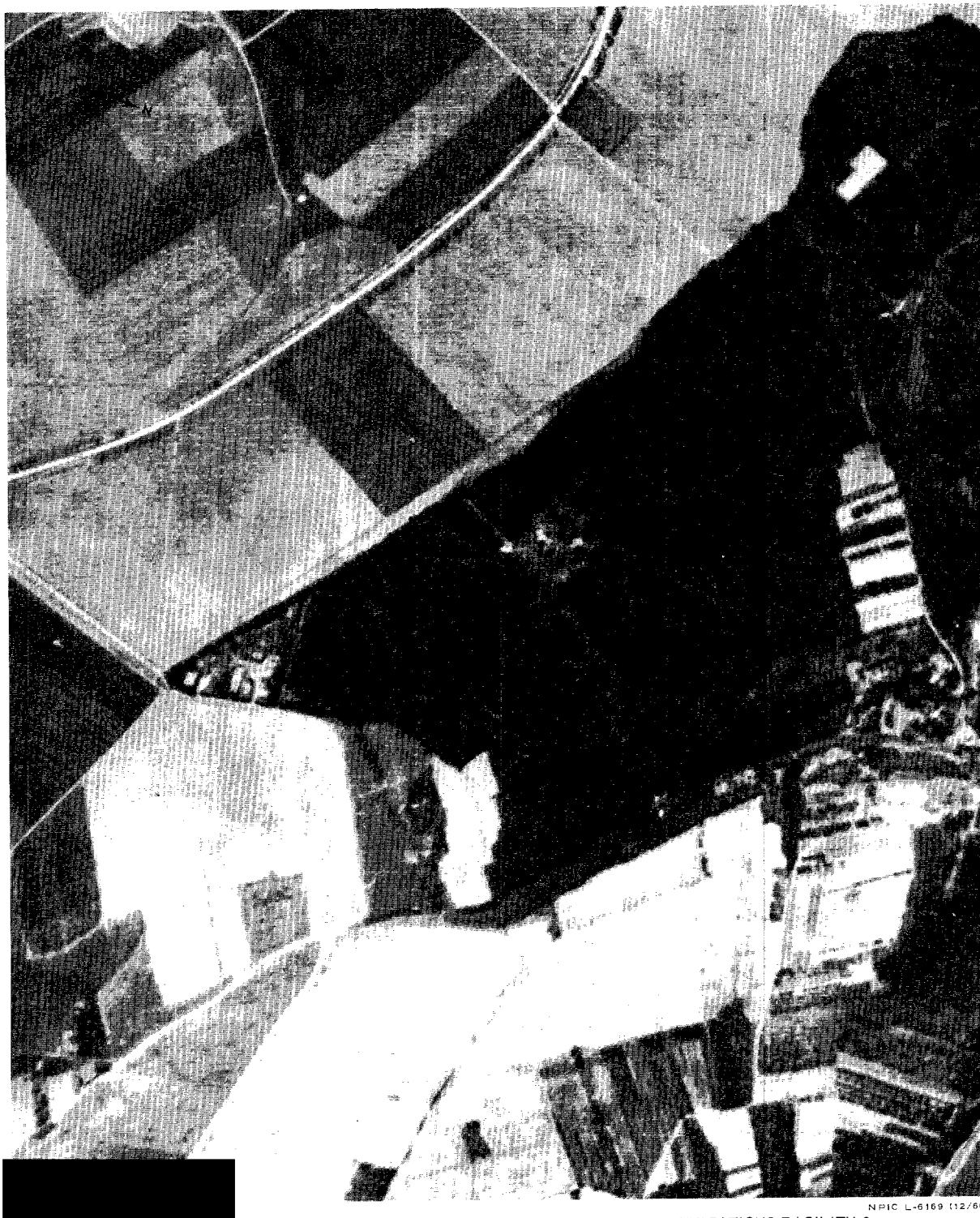


FIGURE 6. LVOV HF COMMUNICATIONS FACILITY, DESIGNATED COMMUNICATIONS FACILITY 3.

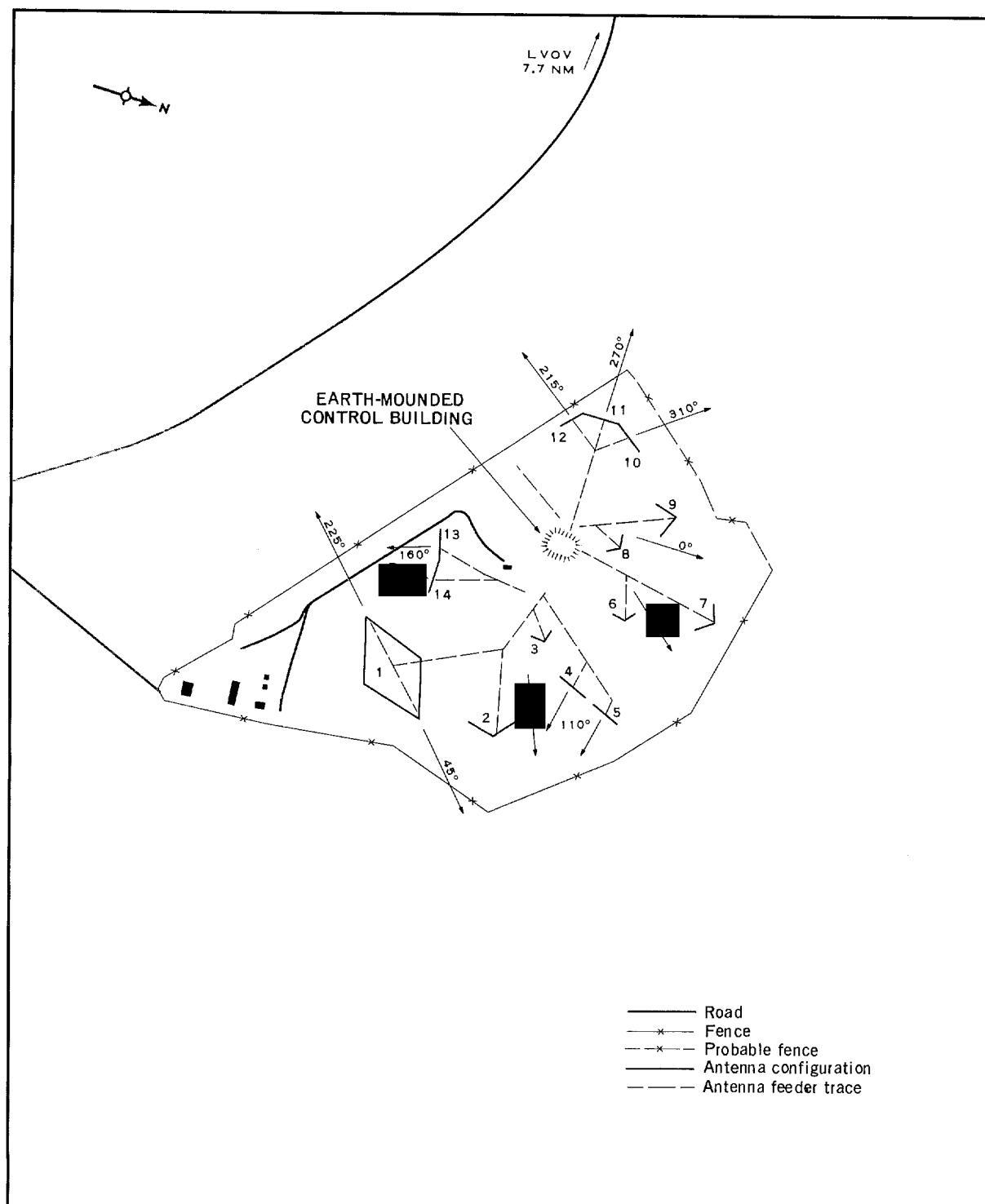


FIGURE 7. LAYOUT OF LVOV HF COMMUNICATIONS FACILITY, DESIGNATED COMMUNICATIONS FACILITY 3.

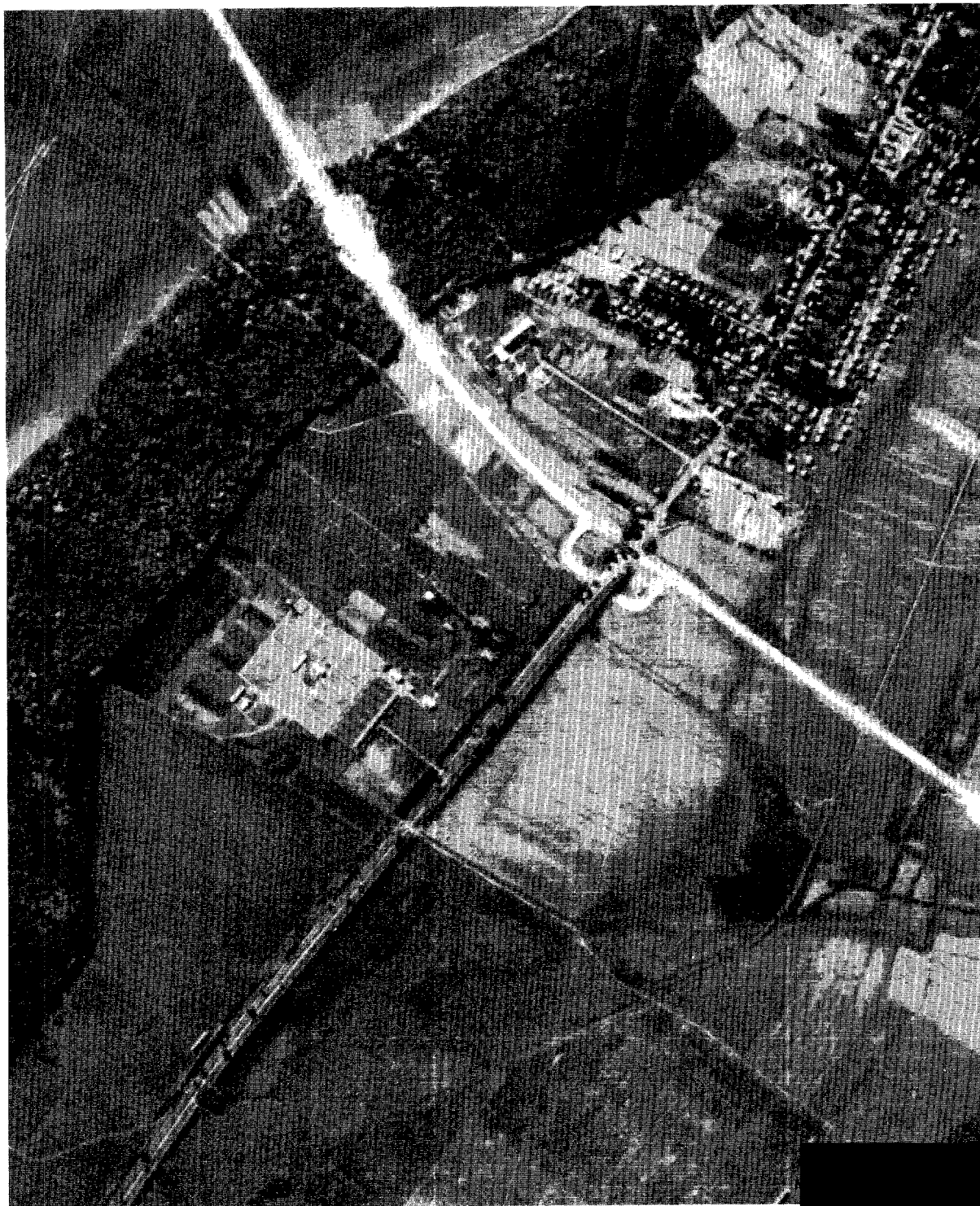
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FIGURE 8. LVOV HF COMMUNICATIONS FACILITY, DESIGNATED COMMUNICATIONS FACILITY 4.

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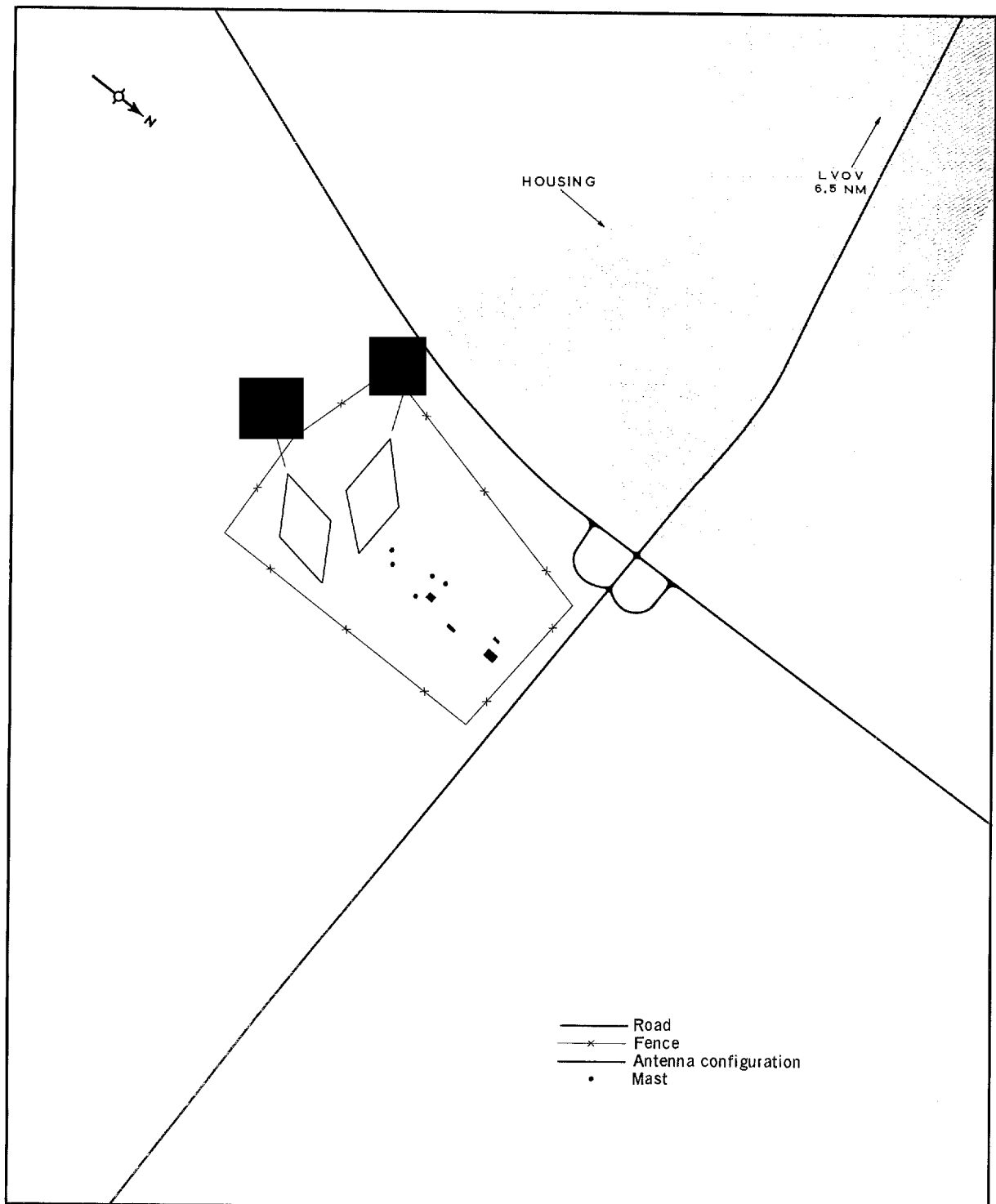


FIGURE 9. LAYOUT OF LVOV HF COMMUNICATIONS FACILITY, DESIGNATED COMMUNICATIONS FACILITY 4.

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FIGURE 10. LVOV HF COMMUNICATIONS FACILITY, DESIGNATED COMMUNICATIONS FACILITY 5.

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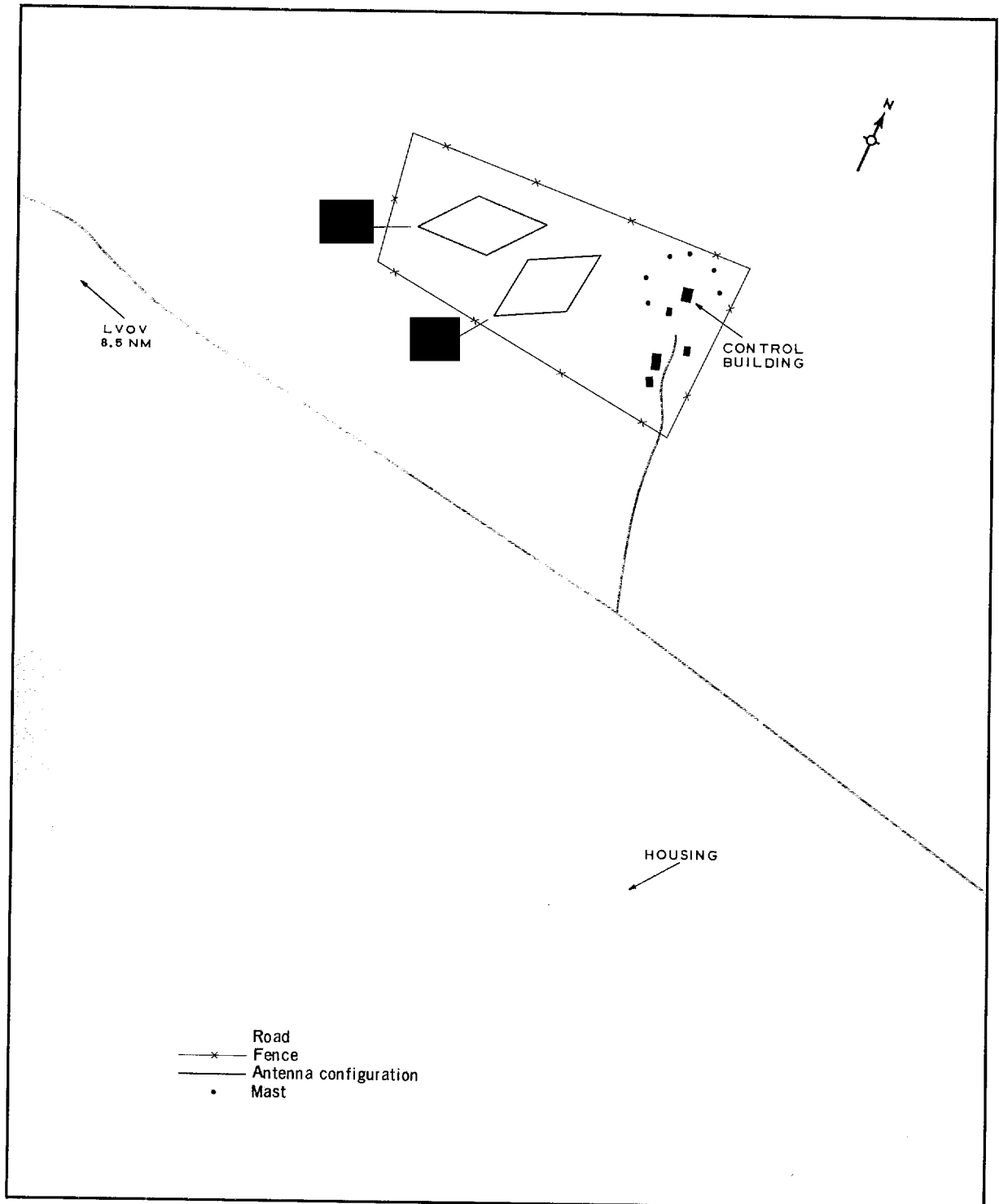


FIGURE 11. LAYOUT OF LVOV COMMUNICATIONS FACILITY, DESIGNATED COMMUNICATIONS FACILITY 5.

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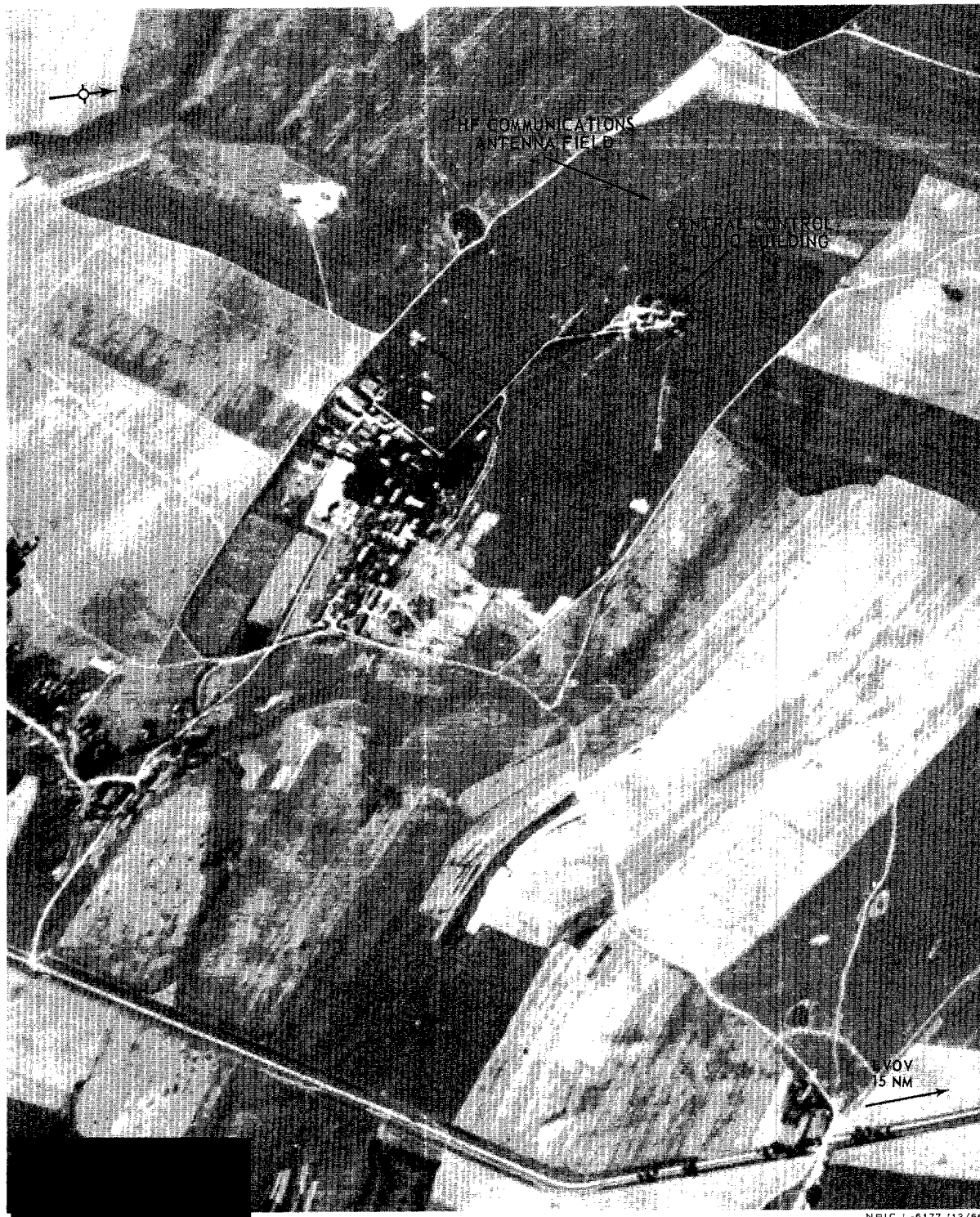


FIGURE 14. NIKOLAYEV HF COMMUNICATIONS FACILITY, DESIGNATED COMMUNICATIONS FACILITY 7.

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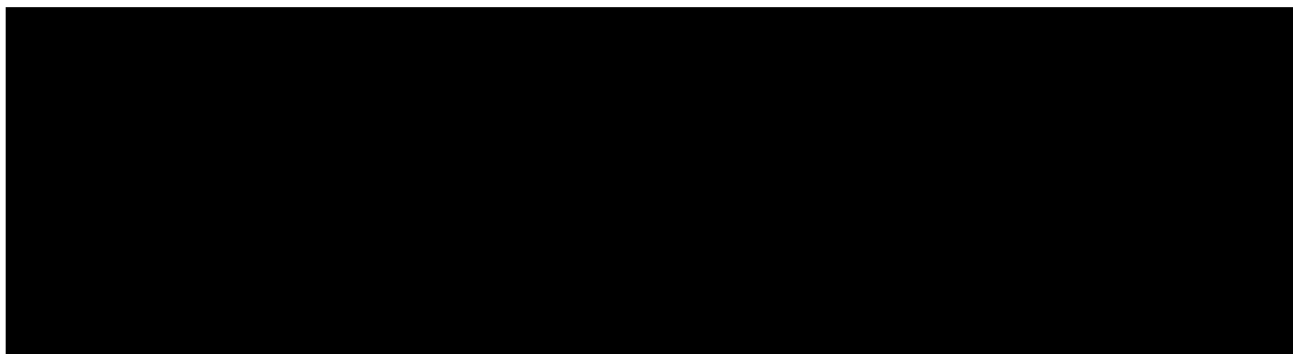
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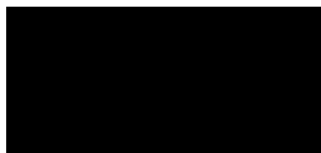


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